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IN MEMORIAM: EDGAR ALEXANDER MEARNS.

Born, September 11, 1856 — Died, November 1, 1916.

BY CHARLES W. RICHMOND.

Plate I.

IN the death of Dr. Mearns the American Ornithologists' Union has lost one of its Founders and most active members, and ornithology one of its most enthusiastic disciples. Friendly and genial in disposition, with an all-consuming interest in the study of nature, he craved the society of men of similar tastes, and looked forward with keen anticipation to the rare occasions when he was permitted to attend the annual sessions of the Union. As an army surgeon, he was subject to the vicissitudes and uncertainties of that calling, and during the greater part of his twenty-six years of active military service was far removed from museums and libraries, both indispensable adjuncts to the working naturalist. While this circumstance greatly interfered with his systematic studies, and prevented him from publishing any extended results of his discoveries, which he was well equipped by training and experience to perform, it undoubtedly contributed largely to his development as a field naturalist, in which field he was without an equal in this country, and enabled him to amass collections that are probably unrivalled as the efforts of a single individual. His activities of over forty years covered a wide range, of which but little, aside

from his ornithological achievements, can receive mention in the present notice.¹

Edgar Alexander Mearns, son of Alexander and Nancy Reliance (Carswell) Mearns, was born at the home of his grandfather (Alexander Mearns), at Highland Falls, near West Point, N. Y., September 11, 1856. His grandfather, born a few miles from Aberdeen, Scotland, in 1786, came to New York in 1805, after making several perilous voyages at sea. He settled at Highland Falls about the year 1815, where Alexander, his son, one of seven children, was born in 1823. Dr. Mearns' father died in 1873, but his mother, who comes of New England stock, is still living.

Edgar Mearns manifested a remarkable interest in birds and animals at a very early age, and this taste was fostered by his father, who bought him a large illustrated book on the native birds. He took great pleasure in looking at the pictures — he was only three years old at this time — and his mother spent hours in teaching him their names and histories, and he soon developed a wonderful knowledge of the subject for one of his years. As he grew older, his father gave him a gun, and they would shoulder their arms and wander through the fields together, close companions. He was taught to set box traps in these early years, and if there was no one at hand to go with him to inspect them, he would steal out alone to see what the traps contained. As a school boy he was often tardy as a result of lingering in the woods in search of specimens. Every natural object interested and attracted him.

Young Mearns was educated at Donald Highland Institute, at Highland Falls, and subsequently entered the College of Physicians and Surgeons of New York, from which he graduated in 1881. At the outset of his medical course, he became personally acquainted with several of the young naturalists of the time, E. P. Bicknell, A. K. Fisher, C. Hart Merriam, and others, some of whom were attending the same routine of studies. He and Dr. Fisher chanced to share the same room at a boarding house at this time, and it was here that the budding young Linnæan Society held its early meetings.

¹ The War Department was asked for a copy of Dr. Mearns' military record, but the request was refused, owing to the great amount of extra work now placed on the department.

When he was about ten years old he began to write out and preserve his observations on birds, and some of these, written in a very youthful hand, are still extant; but it was not until 1872, when a boy of sixteen, that his efforts had crystallized into a plan to prepare a report on the vertebrate fauna of his region, and he set to work with all the energy and enthusiasm of youth to gather material and information for this purpose. It was in the spring of this year that he seriously began a collection, and he then formed the habit of carefully labelling his specimens, noting any important items connected with each object, such as its dimensions in the flesh, the color of its eyes, and other facts of interest. This habit was faithfully followed in after years, and in birds alone it is estimated that over 60,000 measurements were recorded in his various field catalogues. He did not confine his attentions to zoölogy, but devoted himself to the flora as well, and unlike many young students he was ambitious to learn something of foreign species, for as early as 1875 he was in correspondence with one or more European collectors, from whom he obtained many specimens in exchange.

His first published paper, on 'The Capture of several Rare Birds near West Point, N. Y.,'¹ appeared in January, 1878, and it is worthy of comment that under the first species mentioned in this paper he acknowledged some information received from his "friend, Mr. Theodore Roosevelt," inasmuch as almost the last field work he ever undertook was with this same leader of men.

Three other notes followed shortly, while a paper on 'The White-headed Eagles in the Hudson Highlands,'² presented at the meeting of the Linnæan Society of New York, on April 6, 1878, was the first communication read before that newly formed society, and was appropriately published on July 4th. Toward the end of the year he had made sufficient progress with his big undertaking to look forward to a suitable medium of publication, and he wrote to Dr. J. A. Allen for advice. This letter, a copy of which was found among his manuscripts, is here reproduced, as it emphasizes the importance he attached to specific, as opposed to vague general

¹ Bull. Nuttall Orn. Club, III, No. 1, Jan., 1878, 45, 46.

² Forest and Stream, X, No. 111, July 4, 1878, 421; No. 113, July 18, 1878, 462, 463.

records, and illustrates the serious and painstaking method with which he handled his subject, a method of precision that he adhered to throughout his scientific work.

“117 W. 22nd St., N. Y.

Nov. 17, 1878.

Mr. J. A. Allen,

Dear Sir!

I have wanted to ask you several questions with regard to publishing a list of the Bds. of the Hudson River, and take the present opportunity to do so. Singularly enough, there is no medium of publication for such an article in this State. The “New York Academy” has recently changed very much in its character, and Mr. Geo. N. Lawrence tells me it would be impossible to get them to publish any lengthy paper on zoölogy, as he has much difficulty in getting them to take even brief articles of his own.

I am writing quite a bulky list of the Hudson Valley Bds., with which I am taking the greatest pains; particularly regarding dates of migration, breeding, life-habits, etc.

One of the more important points is the northern extension of the “*Carolinian Fauna*” up the Hudson.

I think the whole number of species that have been *taken* in the Hudson Valley (none others will be included), will amount to about 215.

I have been compiling the data of this list for several years. And now my object in writing to you, is to enquire whether there are any available facilities for getting the list published during the coming winter or spring. Would the “Boston Society Natural Hist.,” or “Bulletin Essex Institute” do it? If you will be kind enough to advise me I shall be extremely grateful.

I have tabulated all of the specimens I have taken (1800) in Hudson region, and have formulated tables of *measurements* of all of the specimens taken. I think that these tables contain matter of sufficient interest and importance to warrant publication, in the case of the rarer species especially. As time progresses, we all know that very considerable changes take place, respecting the geog. distribution of the Bds. Very many ornithologists of the present day receive with incredulity many statements of the old

naturalists, which *may* be worthy of perfect credence. Now, if *De Kay* and *Giraud*, who are about our only N. Y. State authorities had made *specific* instead of *general* statements regarding such species as *Euspiza Americana*, *Lophophanes bicolor*, *Thryothorus ludovicianus*, *Parus Carolinensis* and *Corvus ossifragus*, their observations would be of the greatest value; but many persons now doubt the accuracy of these observations. I think the tables of specimens captured and their measurements would be useful in this way if in no other. However I am quite willing to be advised in this matter."

This paper, 'A List of the Birds of the Hudson Highlands, with annotations,' was begun shortly in the 'Bulletin of the Essex Institute,'¹ seven installments appearing between 1879 and 1881, with an 'Addendum' issued in 'The Auk,' in 1890. As printed, it lacks the tables of measurements, these having been reduced to a simple statement of the average dimensions of each species. Dr. Allen, in reviewing the first four parts, said: "...His own notes, even when relating to some of our best known birds, are replete with new information attractively presented, few lists having appeared which offer so much that is really a contribution to the subject in a field where so little really new is to be looked for." In announcing later parts, the same reviewer wrote: "The high praise accorded the earlier installments is equally merited by those now under notice, Mr. Mearns's 'List of the Birds of the Hudson Highlands' ranking easily among the best of our long list of contributions to local ornithology. There is much said about the habits of various species that is entertaining or new..." Dr. Mearns intended this paper as the beginning of a complete catalogue of the vertebrates of the region, but his entrance into the Army, in 1883, caused the abandonment of this plan, although he later (1898) published part of his data on the remaining subjects in a paper entitled "A Study of the Vertebrate Fauna of the Hudson Highlands, with observations on the Mollusca, Crustacea, Lepidoptera, and the Flora of the Region."²

After completing his medical course, in 1881, he married Miss

¹ Bull. Essex Inst., X, 1878 (1879), 166-179; XI, 1879, 43-52; XI, 1879, 154-168; XI, 1880, 189-204; XII, 1880, 11-25; XII, 1881, 109-128; XIII, 1881, 75-93.

² Bull. Amer. Mus. Nat. Hist., X, 1898, 303-352.

Ella Wittich, of Circleville, Ohio, who shared his love of natural history, especially botany, and gave him considerable assistance with his collections. They had two children, a son, Louis di Zerega Mearns, and a daughter, Lillian Hathaway Mearns.

In 1882, Dr. Mearns took an examination for entrance into the medical department of the army; but the events of that period are best told in the following extract from a letter he afterwards wrote (March 16, 1885) to his old preceptor, Robert Donald, then at Lanesboro, Minn.:

"I informed you I think of my determination, you know it had long been my wish, to enter the army, of my coming up before the Army Medical Examining Board and of my passing satisfactorily the examination. I did not receive my commission at once but spent the summer in settling up our business affairs and in preparing to go to New York for the winter.

I stored my collection of specimens at the American Museum of Natural History, N. Y., and on the first of October was called there as temporary curator of Ornithology, and spent the winter. While there I labelled *all* of their large collection of *European* birds, and many others from Asia and Africa, and got up catalogues of all the ornithological and oölogical specimens in manuscripts with printed headings for all items of desirable data concerning the specimens. The most important thing that I accomplished there was the establishment of a cabinet collection in vertebrate zoölogy for the use of students." Confirmation of this last statement is found in a recent work,¹ where it is stated that "the first material for study collections was given by Dr. E. A. Mearns in 1882, consisting of skins and eggs of North American and European birds."

Dr. Mearns participated in the organization of the American Ornithologists' Union in September, 1883, and on Dec. 3 of that year received his commission as assistant surgeon in the army, with the rank of first lieutenant. He was offered a choice of several stations, and selected that of Fort Verde, in central Arizona, as promising an exceptional field for natural history investigations. He was accordingly assigned to this post, which he reached early in 1884. Fort Verde, abandoned as a military station in 1891, was then a

¹The Amer. Mus. Nat. Hist., its History, etc., 2d ed., 1911, 67.

desolate, arid place, but to Mearns it represented a new world, peopled with strange animals and plants, all worthy of the closest study. Within sight of the fort were ancient cliff dwellings, silent reminders of a vanished race; and San Francisco Mountain, then practically unexplored, was also visible in the distance. He set to work with his customary vigor, devoting all of his leisure time to the formation of a splendid collection of the animals and plants of this section of Arizona. The ruins in the neighborhood were also examined in considerable detail, excavations were made, and thousands of relics rescued from oblivion. He wrote a delightful and extremely interesting account of these explorations, under the title 'Ancient Dwellings of the Rio Verde Valley,' which appeared in 'Popular Science Monthly,' for October, 1890.

During the nearly four years he was stationed at this Arizona post, he was attached to various expeditions, some of them peaceful ones, others sent in pursuit of renegade Indians. In the letter to Mr. Donald, quoted above, he wrote: "We reached Fort Verde on March 25th, 1884, and, by a curious coincidence I am just in receipt of orders to leave on that day this year as surgeon in charge of the two cavalry regiments that are about to exchange stations between this department and Texas. I will have two acting Ass't Surgeons with me, which will make my duties light, and on the 900 miles of horseback riding that I will have, there will be much leisure and opportunity for zoölogical and botanical work. I was given the first choice to go on this expedition, and gladly accepted for the sake of the information which I expect to acquire of the fauna and flora of the southern part of Arizona and New Mexico. The medical director is personally friendly towards me and General Crook who commands the Department is particularly interested in my pursuits, and has chosen me to accompany him on two long expeditions through the wildest and least known portions of Arizona. On each of these trips an entire month was spent in the saddle, and a large collection of several hundred specimens of vertebrate animals was made, which were transported together with the rest of our plunder upon pack mules in panniers." The contemplated trip was duly performed, and a long account of it was recorded in one of his manuscript journals.

Dr. Mearns was popular with his brother officers, who marvelled

at his diligence and untiring zeal in the preparation of specimens, and many of them brought him trophies of various kinds as contributions to his collections. These cordial relations with his official associates continued throughout his career; indeed, his earnest and trustful nature and genuinely frank and straightforward character permitted no other course.

Early in 1888, he was transferred to Fort Snelling, Minn., where he remained until 1891, returning to this post again in 1903. In the winter of 1889-90, at which time he received his captaincy, a few months spent at the American Museum enabled him to describe several new mammals and birds from his Arizona collections, as well as to complete other manuscripts. During his stay at Fort Snelling, he borrowed a large series of Sparrow Hawks from various friends and museums, and investigated the geographical variation in this species, the results of which were embodied in a paper entitled 'A Study of the Sparrow Hawks (Subgenus *Tinnunculus*) of America, with especial reference to the continental species (*Falco sparverius* Linn.).'¹

When the Mexican-United States International Boundary Commission was organized, in 1891, Dr. Mearns was directed to act as medical officer, with orders to report for duty on Feb. 1, 1892. By "previous correspondence with Lieut. Col. J. W. Barlow, senior commissioner," he had obtained authority to establish "a biological section of the survey, provided this could be accomplished without additional cost" to the Commission. By coöperation with the United States National Museum he was enabled to carry out his designs, and he personally was able to conduct observations along the entire line, from El Paso to the Pacific, including San Clemente Island, which he visited to carry his investigations to their logical terminus. The work was continued up to September, 1894, except for an interval of a few months in the preceding year, when his time was divided between Forts Hancock and Clark, in Texas. During his work on the boundary line he had the services of one assistant for a considerable part of the time, as well as the voluntary aid of his associates on the survey. As a result of their combined industry, about 30,000 specimens were

¹ Auk, IX, July, 1892, 252-270.

collected and transmitted to the U. S. National Museum. The collections had been carefully made, to illustrate changes in the animals and plants in the various faunal areas through which the expedition passed, with the view of throwing some light on subspecific variation in them.

At the close of the Mexican Boundary work, Dr. Mearns was ordered to duty at Fort Meyer, Va., with permission to study his collections at the National Museum. In the time at his disposal he made considerable progress in identifying the mammals, and in discriminating the several life zones of the boundary line. In addition to the faunal zones currently recognized he suggested several lesser geographical areas, which he termed "differentiation tracts." He had planned an elaborate report on the biology, geology, etc., based on the boundary collections, and had accumulated a vast amount of data and manuscript for this purpose, but Congress withheld the sum estimated to cover the cost of printing and illustrations, and the project was reluctantly given up. The first part of his report on the mammals, the only one thus far published, was issued in 1907,¹ and contains upwards of 500 pages, with many plates and text figures. It includes much introductory matter of a general nature, with an itinerary of the expedition, an account of the life areas, lists of the trees, etc., of the Mexican border, and is an excellent example of the careful and detailed methods of its author.

In the autumn of 1896, he devoted his vacation to field work in the Catskills, and to rambles in the vicinity of his old home. A paper entitled 'Notes on the Mammals of the Catskill Mountains, New York, with general remarks on the Fauna and Flora of the Region,'² was based on investigations made at this time.

After a few months' duty at Fort Clark, Texas, in 1897-98, he was commissioned brigade surgeon (later chief surgeon) of Volunteers, with the rank of Major, in the Spanish-American war, serving until March 22, 1899, when he was honorably discharged and resumed his regular duties. His next station was Fort Adams, Rhode Island, where he served during parts of 1899-1900. While

¹ Bull. U. S. Nat. Mus., No. 56, Pt. 1, 1907.

² Proc. U. S. Nat. Mus., XXI, 1898, 341-360, figs. 1-6.

there he joined the Newport Natural History Society, and took an active part in its work, especially in collecting information relative to the present and former status of the mammalian fauna of the State. Toward the close of the year 1900, he suffered a nervous breakdown, probably complicated by earlier attacks of malaria, and was granted several months sick leave, part of which time he passed in Florida in an effort to regain his health. Three months or more were spent in camp in the Kissimmee prairie region, and while there, in February, 1901, he received notice of his advancement to Surgeon, with the rank of Major. Upon his return in May, much benefited by his outdoor life, he stopped at Washington and devoted several weeks to a study of the series of jaguars and other tropical American cats at the National Museum, the results of which appeared in a number of papers published during the next few months.

At Fort Yellowstone, where he was on duty in 1902, he was particularly active in gathering botanical material. It was here that he became aware of the destruction of bird and animal life through the presence of a heavy gas, supposed to be carbon dioxide, which settled in certain depressions and cavities of the earth, causing the death of all small animals that ventured into them. In the course of a few months he detected 16 species of birds, numbering many individuals, that had perished in this manner, and he was of the opinion that "hundreds, if not thousands" died from this cause during the year. He recorded the observations made here in a paper entitled 'Feathers beside the Styx,'¹ and before leaving the Park, he requested the superintendent to have the most dangerous spots provided with wire screens, to prevent the birds entering them.

Military service in the Philippines, which he visited in 1903-1904 and again in 1905-1907, afforded Dr. Mearns his first opportunity to study nature in an entirely new dress. The Islands possessed a rich and varied fauna, with many areas still unexplored or but slightly known, while many problems bearing on the distribution of species within the group remained to be solved. He was largely responsible for the formation of the "Philippine Scien-

¹ Condor, V, 1903, 36-38.

tific Association," a society organized on July 27, 1903, and having as its chief object the promotion of scientific effort in the Philippine Islands. It was begun under the presidency of Major-General Leonard Wood, a broad-minded officer, who encouraged every form of scientific endeavor. Mearns was a most active member of this league from its inception, and his quiet but effective powers of persuasion, and his ability to enthuse others were the means of securing much material and information for later study. During the year covered by his first visit, he served as surgeon in the military department of Mindanao, where his time was fully occupied, so much so, that it was often necessary for him to work far into the night to preserve specimens brought in to him during the day. In his official capacity he accompanied eight punitive expeditions against hostile Moros, but even under these circumstances his collections continued to grow, through the coöperation of his associates. Ethnological material, such as bolos and other native implements and weapons, together with various editions of the Koran, were secured on these forays and utilized as specimens. He accompanied General Wood on three trips of inspection to various islands, some of them zoölogically unknown and rarely visited, and during parts of June and July, 1904, he ascended Mount Apo, the highest peak in the Philippines, where he made general collections and secured much information of value. In the exploration of Mount Apo he was anticipated by two English collectors, who had made collections there hardly a year before.

Hard work, combined with exposure in a tropical climate, had its effect, and in September, 1904, he was sent to the Army General Hospital at San Francisco, suffering from a complication of tropical parasitic disorders. He visited Washington after he had partially recovered his health, and took advantage of the opportunity to study some of his Philippine material, and in a series of five papers issued in the early part of 1905, he described six new genera and twenty-five new species of mammals, a new genus and nineteen new species of birds, besides recording eight species of birds not previously known from the Islands, with notes on other of the rarer forms. Other new types embraced in his collections were made known by experts in several branches of zoölogy.

On July 20, 1905, Mearns stopped at Guam, on his way back

to the Philippines, and here he made the inevitable collection that attended his every pause, however brief, in a new locality. In the few hours spent at Guam he obtained twenty-three birds and a variety of other material. To him every specimen had a potential scientific value, and if worth picking up at all was worth labelling with its full history. This applied to all material, whether in his own chosen field or not, his theory being that if a specimen proved to be of no interest it could be easily discarded at any time.

During the two years of his second period of service in the Philippines he was enabled to reach many interesting and obscurely known islands, having the good fortune to accompany General Wood on tours of inspection to the northernmost and southernmost points of the Archipelago, but space forbids notice of other than his two chief exploits. In May, 1906, he was placed in command of a "Biological and Geographical Reconnaissance of the Malindang Mountain Group," in western Mindanao, which was organized to explore and map the region and make collections of its natural products. This expedition, originally consisting of 21 whites and 28 native carriers, left the old fort at Misamis, on May 9th, and experienced many difficulties, ascending one spur of the mountain after another, only to discover that an impassable gorge several thousand feet deep separated it from the main peak. By May 25th, the party had become reduced to half its original number, through the departure of various members to the coast. The remainder pushed on, and at 11.30 o'clock on the morning of June 4th reached the top of Grand Malindang, the second highest point in the Philippines, and previously unvisited by civilized man. It was foggy and cold, but Dr. Mearns remained on the summit three days and nights to secure a good series of the animal life of that altitude. The return to the coast was comparatively uneventful and occupied only a few days. A good map of the region was prepared, and a number of new animals and plants were discovered, including *Malindangia*, a new genus of birds.

One achievement among Mearns' Philippine experiences stands out more prominently than any other, namely, his ascent of Mount Halcon, which was undertaken at the worst season of the year. This notable expedition, headed by Dr. Mearns, was organized "under the direction and with the support of Maj. Gen. Leonard

Wood," its object being to "determine some feasible route to the mountain, to ascend the highest peak, to secure as much data as possible and to collect objects of natural history." Elmer D. Merrill, botanist of the expedition, has fortunately given an account of this trip, and the extracts here quoted are from his paper. "Halcon the third highest peak in the Philippines, is situated in the north-central part of Mindoro. With no known trails leading to it, surrounded by dense forests, cut off from the coast by difficult ridges and large rivers subject to enormous and appalling floods, it stood seemingly inaccessible. Its location is perhaps in the most humid part of the Philippines, where the rains continue for nine months in the year, in a region geographically quite unknown and inhabited by a sparse population of entirely wild and very timid people, and on an island regarding which there is a widespread and generally accepted belief as to its unhealthfulness. Although within 100 miles of Manila and not more than 15 from Calapan, the capital of Mindoro, so far as I have been able to determine it remained unconquered up to the year 1906." John Whitehead, an English collector, who reached one of the outlying spurs of Halcon in the winter of 1895, wrote of this region: "I have seen a good deal of the tropics, but I never encountered such deluges, such incessant rain, or such thousands of leeches."

The Mearns party, consisting of eleven whites and twenty-two natives, left Calapan on Nov. 1, for Subaan, where it began its journey inland. The expedition discovered several uncharted rivers, which had to be forded or crossed on rude bridges constructed by the party, and progress was impeded by the almost constant rains, the difficulties of trail-cutting, and the swarms of leeches, the latter constituting a notorious drawback to travel in the forests of that region. The privations of the journey are graphically set forth by Merrill, who states that the expedition reached the summit on the afternoon of Nov. 22d, but remained only long enough to take aneroid readings and deposit a record of the trip. The return to the coast was not without trouble, since nearly fourteen days were required to reach Subaan. Carriers sent down in advance for food and supplies had not returned; the remaining members were obliged to carry heavy loads; a bridge made by the party was washed away and had to be rebuilt;

blinding rain continued for days without a pause; two men were lost for several days and later discovered in a half-famished state; and all of the party were on short rations. These and other troubles were incidents of the return trip. At length, however, the party reached Subaan, Dec. 5, after an absence of forty days. The zoölogical results of the trip were disappointing, since only by the exercise of great effort could specimens be prepared, or saved from later destruction by moisture. Furthermore, Dr. Mearns noted that the mountain birds had descended to lower levels to escape the rains, and flocks of them were observed passing up the mountain side when the party was on its return to the coast.

Late in 1907, Dr. Mearns returned from the Philippines, and was ordered to Fort Totten, N. Y., where he remained nearly a year. While at this station he indulged in a garden, and derived much satisfaction from growing a variety of vegetables, and registering in his notebooks the results of his toil, indicating the treatment, yield, and value of each kind planted. It was at Fort Totten that he became aware of the presence of the disease that finally brought his career to an end.

In 1908, President Roosevelt planned an extensive hunting and scientific expedition to Africa, and invited the Smithsonian Institution to participate, with the view of securing the best results in the preservation of both large and small game. The proposition was accepted, and Dr. Mearns was suggested for the position of naturalist. He agreed to undertake the journey, and on Jan. 1, 1909, he was retired, with the rank of Lieut.-Col., but "assigned to active duty with his consent," with orders to "report in person to the President of the United States for duty." Concerning the objects of the expedition President Roosevelt wrote him: "While our collections will be mainly of mammals and birds, yet if we can add reptiles and fresh-water fish, it will certainly be desirable. While not making a special effort in the collection of insects and plants, it will yet be desirable to do all that can conveniently be done in these directions.

"Dr. Walcott recommended you to me as being the best field naturalist and collector in the United States; and as I already knew well the admirable work you had done I was only too glad to assent to the recommendation, and accordingly at his request detailed

you to take charge of the scientific work of the expedition. I know no one who could do it as well."

The party, consisting of Col. Roosevelt, his son Kermit, Dr. Mearns, and Messrs. Heller and Loring, sailed early in March, 1909, and was absent nearly a year. It traversed sections of British East Africa, where Mearns seized the opportunity to collect material on the slopes of Mount Kenia up to the snow line; Uganda, across which he journeyed on foot, to enable him to make better collections and observations; finally passing through the Lado Enclave, down the White Nile to the coast. The course of the expedition and its results are matters of history, and it will suffice here to say that of the upwards of 4000 birds collected over 3000 were obtained by Dr. Mearns, who also secured many small mammals, plants and other objects.

Upon his return to Washington, Dr. Mearns began a general report on the birds, and published several preliminary papers describing new forms obtained on the expedition. While thus engaged, he was requested by Mr. Childs Frick to undertake another African journey, which was to include Abyssinia and little travelled parts of eastern Africa. Although less physically fitted to undertake difficult journeys than formerly, the advantage of having more material for comparison appealed to him and he was unable to resist the temptation. He became a member of this expedition, and the latter part of the year 1911 found him again in Africa, from which he returned in September, 1912. The party entered at Djibouti, French Somaliland, and travelled inland to Dire Daoua, thence to Addis Abeba, the Abyssinian capital. From there it worked generally south by way of the Abaya lakes, through the Galla country, making a loop round Lake Stephanie and skirting the south end of Lake Rudolf, and finally reached Nairobi. Part of the territory traversed was previously unexplored, and the liberal collections made over the whole route enabled Dr. Mearns to add greatly to his knowledge of the birds of eastern Africa. In April, 1912, when the expedition was in a remote part of southern Abyssinia, his son, Louis Mearns, a most estimable and promising young man, who had accompanied him on many lesser collecting trips, died in Baltimore, Md. The news of this sad occurrence, which was withheld by his family until his return to the United States, proved a severe shock to him.

With largely increased collections — the Frick expedition having added over 5000 birds to his available material — Dr. Mearns again resumed his studies, intending to work up all of the African series together. He had been relieved from further active duty at the end of the year 1910, and felt he could at last make his plans and move as he pleased. For years he had cherished the desire to settle down to museum research, to work over his collections and complete reports long projected. The opportunity was now at hand, but, alas! not to be realized. The privations and exposure of his many travels, together with the progress of his malady, had so undermined his system that his vitality had reached a low ebb. He continued at work for two or three years, with ever widening periods of inability to reach his office. Thinking to benefit his condition, he made several short field trips in this period, from which he returned without much improvement, and at length he succumbed, in the midst of his greatest undertaking, surrounded by a wealth of material that was largely the result of his own industry. He passed away at the Walter Reed Army General Hospital, in Washington, Nov. 1, 1916, leaving his mother, widow, daughter, and a large number of friends to mourn his loss.

Dr. Mearns was of an exceedingly generous disposition, one who had no desire to retain the fruits of his labor for his own glory and satisfaction, but preferred to donate them to museums where they would be accessible to all for study. His earlier collections, made up to 1891, went to the American Museum of Natural History, and later ones were given with equal liberality to the United States National Museum. Of shells, and probably other objects collected in large quantity, he distributed sets to various museums, while a series of human skeletons and crania from the cliff dwellings at Fort Verde was sent to the Army Medical Museum. An inkling of the importance of his contributions may be gathered from the statement of Standley (1917), who writes "As naturalist of the Mexican Boundary Survey of 1892-93 he collected or had collected under his direction the largest and best representation ever obtained, consisting of several thousand numbers, of the flora of that part of the United States and Mexican boundary which extends from El Paso, Texas, to San Diego, California. Dr. Mearns secured also what is undoubtedly the largest series of plants ever obtained

in the Yellowstone National Park, and in addition he collected extensively in the Philippines, Arizona, Florida, Rhode Island, Minnesota, and southern New York. All his collections are deposited in the U. S. National Museum, and probably no one person has contributed a larger number of plants to that institution." Hollister, in 1913, referring to Philippine mammals, said that of 1454 specimens in the National Museum, "probably by far the largest collection from the archipelago in any museum," Dr. Mearns had given 1012. More impressive figures may be cited in the case of birds, when it is known that more than one tenth of the total number of specimens of birds in the U. S. National Museum were either collected or contributed by him.

The published writings of Dr. Mearns number about 125 titles, chiefly on biological subjects, although medicine, archæology, and biography are also represented. Fifty or more new species of animals and plants have been named in his honor, as well as three genera, the latter constituting a rather unusual distinction. *Mearnsia*, a tree of the myrtle family, is a native of the slopes of Mount Halcon, and the same name has been conferred on a rare swift from the island of Mindanao, while *Mearnsella* commemorates a genus of fishes from the last named locality.

Dr. Mearns was a Patron of the American Museum of Natural History; Associate in Zoölogy of the National Museum; Correspondent of the Academy of Natural Sciences of Philadelphia; Fellow of the American Ornithologists' Union; Member of the National Geographic Society, of the Biological Society of Washington, of the Linnaean Society of New York, and of various other societies.

For one who had engaged in many difficult journeys, Dr. Mearns was of rather frail build, not more than five feet four inches in height, and probably never weighed much in excess of 140 lbs., but he was blessed with a spirit of determination that enabled him to accomplish nearly every task he undertook. Withal he was modest and unassuming in demeanor and seldom referred to his own exploits, but was a good auditor and always interested in the experiences of his friends. He avoided arguments and never indulged in criticism of others; was fair and impartial in his appraisal of men. He was always willing to seek advice and

give weight to the opinions of others. Serene and placid in disposition, cheerful and optimistic in temperament, he was fond of the beautiful in nature and art, even of poetry, yet philosophical and analytical and systematic by nature. As a friend, he was sympathetic, generous, steadfast, and intensely loyal.

NOTES ON THE BREEDING BIRDS OF PENNSYLVANIA AND NEW JERSEY.

BY RICHARD C. HARLOW.

SINCE the publication of Dr. Witmer Stone's two works: 'The Birds of Eastern Pennsylvania and New Jersey' (1894) and 'The Birds of New Jersey' (1909) the writer has done considerable field work in various parts of both states and portions of every nesting season from 1904 to 1917 have been spent in investigating the breeding habits of the resident or summer resident species. A large amount of data has naturally been collected much of which adds materially to our knowledge of the breeding range and relative abundance of the birds of Pennsylvania and New Jersey.

Some time ago Dr. Stone urged the writer to publish a summary of his observations making the pertinent remark that "the main trouble with oölogists is that they publish altogether too few of their records". It is undoubtedly true that many important nests are found every year about which nothing appears in print and the data concerning them would yield valuable information regarding the distribution and time of breeding of the species.

Acting upon Dr. Stone's suggestion the present paper has been prepared. Under each species are given the number of nests examined; the average number of eggs in a complete set, as well as the extremes, in order to show the range of variation; and the average and extreme dates for complete sets. Additional information is given under certain species and in the case of rare species